

ABSTRACT OF THE DISCLOSURE

Systems and methods are described for subscriber loop repeater loopback for fault isolation. A method includes obtaining a sample of a downstream signal conveyed along a signal path; performing an analysis of the sample; determining a presence or an absence of a fault in the signal path based on the analysis of the sample; indicating a presence or an absence of a fault in the signal path by transmitting a diagnostic signal to an upstream node; and isolating a location of the fault as a function of the diagnostic signal. An apparatus includes a band pass filter; a detection unit coupled to the first band pass filter; a data processor coupled to the detection unit; a health checking unit coupled to the microcontroller; a digital to analog converter coupled to the microcontroller; a low pass filter coupled to the digital to analog converter; and a summer coupled to the low pass filter.